

Monitoring of PM KUSUM Scheme of India

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Implemented by



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PM KUSUM scheme

- ❖ Promotion of Solar Water Pumps(PSWPs) is a bilateral measure between the Ministry of New and Renewable Energy and German Ministry of Economic Development and Cooperation (BMZ)
- ❖ PSWP aims to improve, expand and speed-up the roll-out of sustainable solar water pumps
- ❖ Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyaan –a Flagship program of MNRE



Three components

- Component-A: 10 GW RE Power plant**
- Component-B: 2 million Off grid SWP**
- Component-C: 1.5 million Grid connected SWP**

Year	Component-A (Commissioning target in MW)	Component-B (Sanction target in Nos.)	Component-C (Sanction target in Nos.)	
			Individual pump solarization	Feeder level solarization
2019-20	0	1,50,000	82,000	0
2020-21	500	5,50,000	1,18,000	2,00,000
2021-22	4,500	6,00,000	2,00,000	2,50,000
2022-23	5,000	7,00,000	3,50,000	3,00,000
Total	10,000	20,00,000	7,50,000	7,50,000



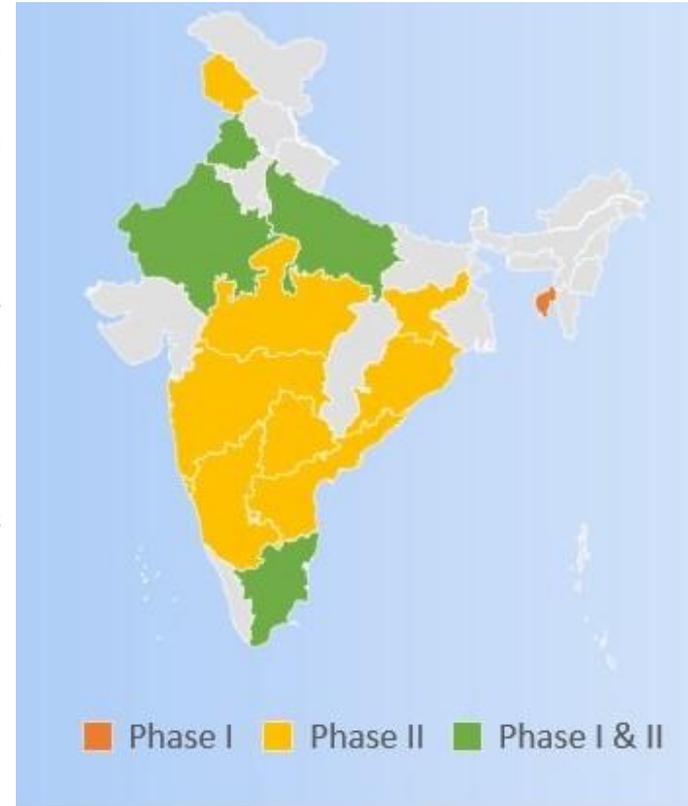
Importance of monitoring tool

- ❖ **Maximum Utilization of scheme**
- ❖ **Quality of Supply and Services**
- ❖ **Performance Analysis**
- ❖ **Operational Availability**
- ❖ **Database for Policy Roadmap**

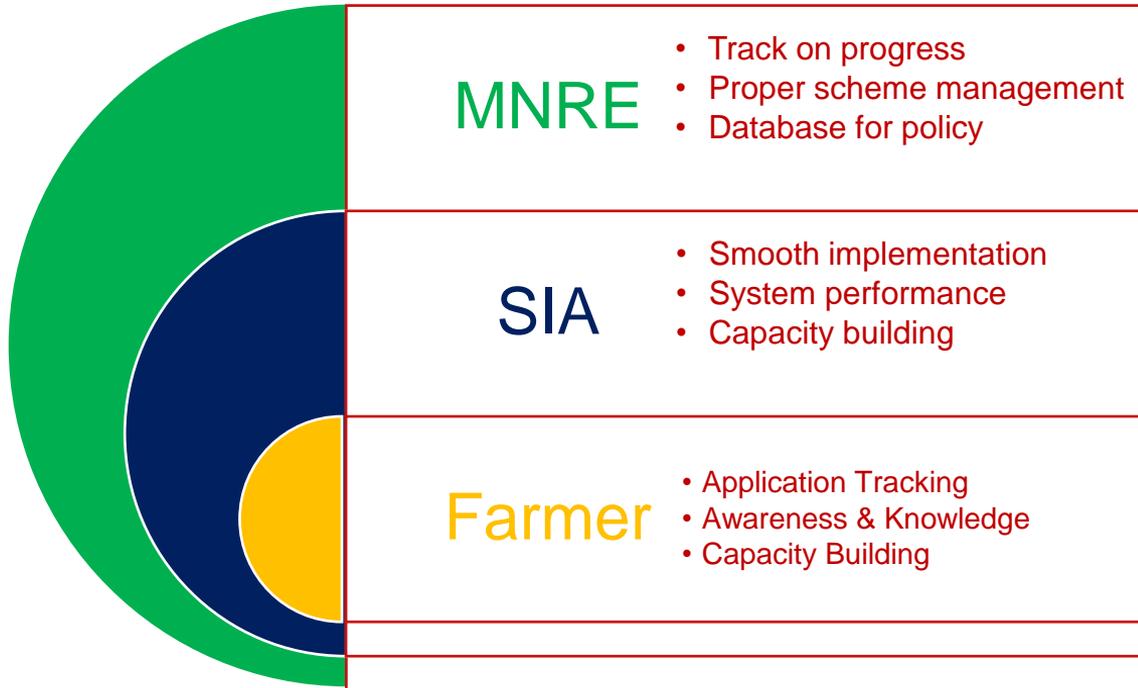


Phase wise development of state portals

- ❖ The portals are being designed for multiple stakeholders to get information on multiple processes about multiple types of devices to be/being installed under PM-KUSUM
- ❖ State Portal provides detailed information of different parameters/processes of the devices which are being received & archived in State Server
- ❖ National portal provides the summarized results of states through portal integration
- ❖ Phase I: 5 states (only component B)
Phase II: 20 components across 13 states



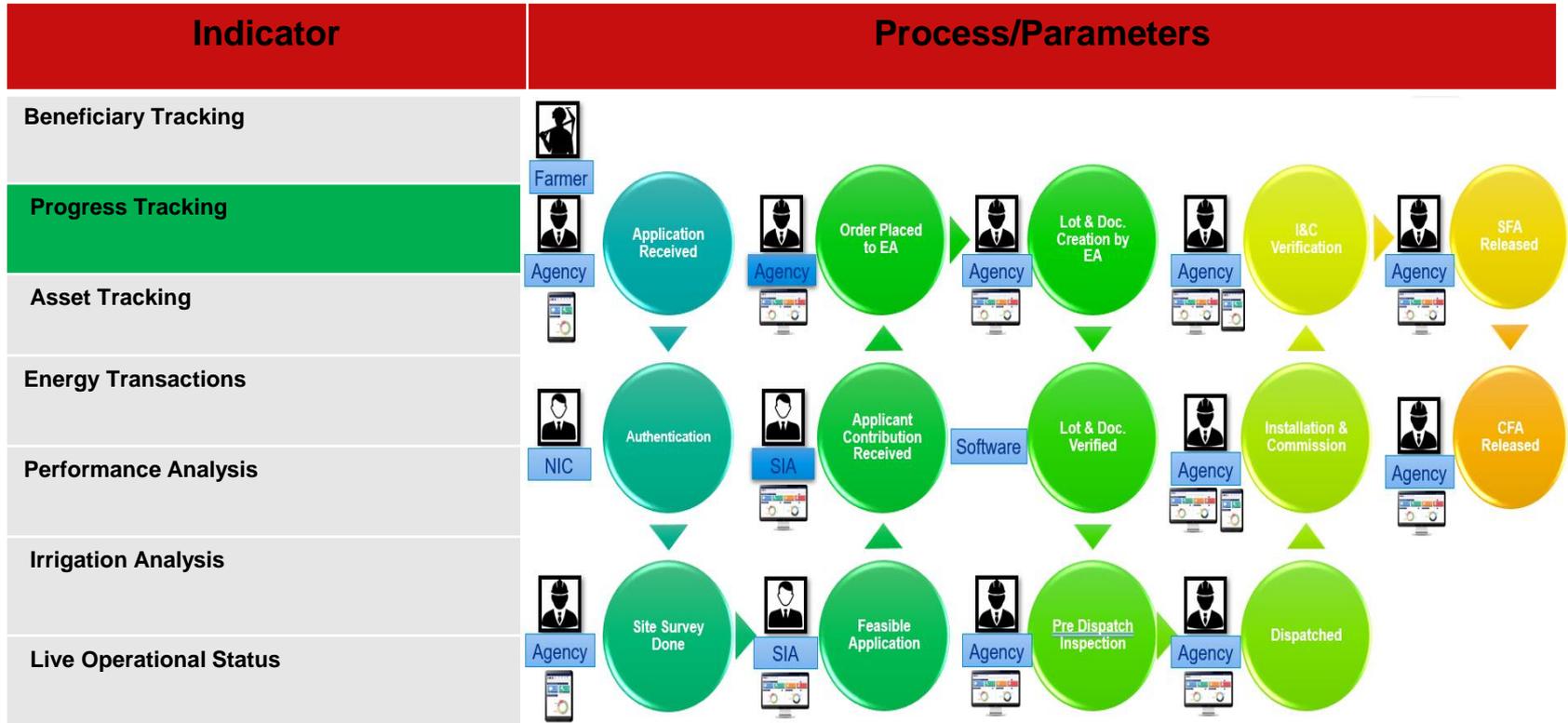
Target Group



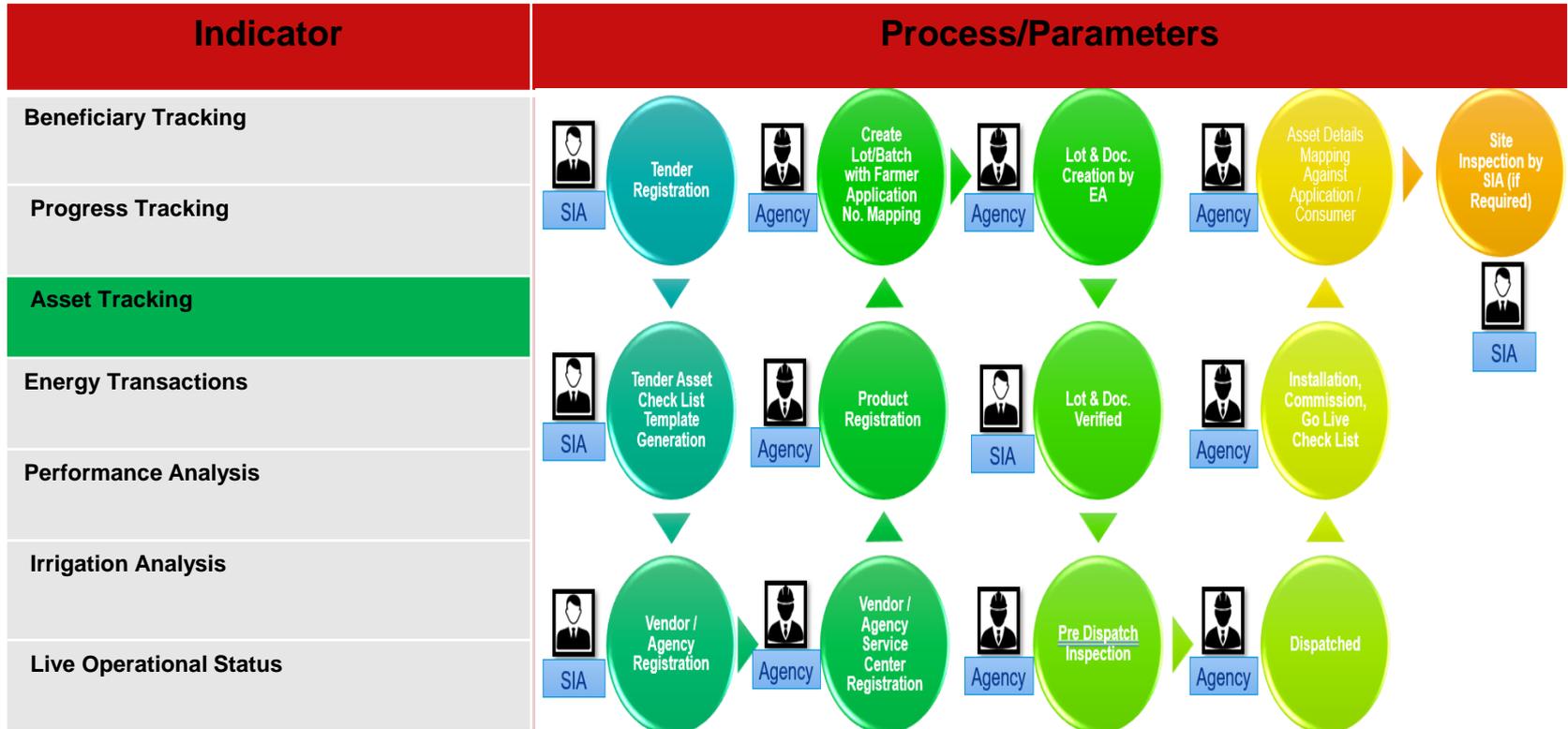
Indicator and Process/Parameters

Indicator	Process/Parameters		
Beneficiary Tracking	Application & Consumer Details 	Agriculture Details 	Bank Details 
Progress Tracking			
Asset Tracking	Contact & Location Details 	Pump Details 	Agency Details
Energy Transactions			
Performance Analysis	Irrigation Details 	Solar Details 	Financial & Commercial Details 
Irrigation Analysis			
Live Operational Status	 Consumer Registration Form	 Site Survey Form	 Vendor Registration Form  LOA

Indicator and Process/Parameters



Indicator and Process/Parameters



Indicator and Process/Parameters

Indicator	Process/Parameters
Beneficiary Tracking	
Progress Tracking	<p>IA Level : Archived Data From Remote Monitoring System – SCADA with IIoT Based Comm., Pub Sub Model</p> <p>Component -B</p> <ul style="list-style-type: none"> - Generation : kWh, Running Hours, %CUF - Pump : Running Hours, Till Date Water Discharge - Connectivity - % Connectivity, % Data Availability
Asset Tracking	<p>State Level : BOTs for Analysis and Summary of Archived Data</p>
Energy Transactions	<p>Consumer Summary from Raw Data</p> <p>District Level Summary – Sum and %</p> <p>State Level Summary – Sum and %</p>
Performance Analysis	<p>Summary Parameters:</p> <ul style="list-style-type: none"> % Availability : Connectivity, Data Solar Performance : % CUF Running Hours : Pump Irrigation : Water Discharge, Pump Run Hours in Day Time
Irrigation Analysis	<p>National Dash Board : Subscribe and Filter Archived Data</p>
Live Operational Status	<p>Subscription of Data Archived Data</p> <p>National Summary</p> <p>State / District wise Summary</p> <p>Client Side Processing of Data</p> <p>Chart Representation</p> <ul style="list-style-type: none"> - Google Map Indicators for Display of Summary Parameters in Pop Window against each Location - Over All Summary of multiple Performance Indicators - Top Five States (Against Performance Parameter) - Last Five States (Against Performance Parameter)

Indicator and Process/Parameters

Indicator	Process/Parameters
Beneficiary Tracking	
Progress Tracking	<p>IA Level : On Line Data From Remote Monitoring System – IIoT SCADA, Pub Sub Communication Model</p>
Asset Tracking	<p>Live Geo Location of all Assets deployed under KUSUM B</p> <p>Component -B</p> <ul style="list-style-type: none"> - Pump Controller : DC / AC – V, I, kW - Pump : Frequency, Water Flow Rate - Status : Pump Controller, Pump, Connectivity
Energy Transactions	<p>State Level : BOTs for Analysis and Summary of On Line Data</p>
Performance Analysis	<p>Consumer Summary from Raw Data</p> <p>District Level Summary – Sum, Count, %</p> <p>State Level Summary – Sum, Count, %</p>
Irrigation Analysis	<p>Summary Parameters:</p> <p>Number of Systems Connected : Total and %</p> <p>Number of Pumps On : Total and %</p> <p>Number of Generation On : Total and %</p> <p>Solar Generation : Total kW and % of Installed Capacity</p> <p>Pump Load : Total kW</p>
Live Operational Status	<p>Water Flow : Total Water Flow Output</p>
	<p>National Dash Board : Subscribe and Filter On Line Data</p> <p>Subscription of Sum / Count / % Data</p> <p>National Summary</p> <p>State / District wise Summary</p> <p>Mapping and Sorting of Data</p> <p>Chart Representation</p> <ul style="list-style-type: none"> - Google Map Indicators for Display of Summary Parameters in Pop Window against each Location - Top Five States against parameter - Last Five States against parameter

Additional Tools and Features

- ❖ Site survey App
- ❖ Site inspection App
- ❖ Farmer mobile App
- ❖ Application Status Tracking
- ❖ Notification
- ❖ Weather advisory services
- ❖ Knowledge Management Centre

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Thank You